

REMARKS/ARGUMENTS

Applicants submit this Amendment, together with a Petition for Extension of Time, in reply to the Office Action mailed October 4, 2004.

In this Amendment, Applicants amend claims 28-41, 43, 49, 50, 53, 57-70, 72, 78, 79, 82, 89, and 90 to improve clarity; amend claims 27, 42, 56, 71, and 85-90 to better define the claimed invention; and add new claim 91.

Before entry of this Amendment, claims 27-90 were pending in this application. After entry of this Amendment, claims 27-91 are pending in this application.

The originally-filed specification, claims, abstract, and drawings fully support the amendments to claims 27-43, 49, 50, 53, 56-72, 78, 79, 82, and 85-90, and the addition of new claim 91. No new matter was introduced.

In the Office Action, the Examiner rejected claims 27, 30-34, 38, 40-42, 45-56, 59-63, 67, 69-71, and 74-90 under 35 U.S.C. § 103(a) as being unpatentable over French Patent No. 0,384,231 (“FR ’231”) in view of U.S. Patent No. 5,660,656 to Herbelleau et al. (“Herbelleau”) and/or U.S. Patent No. 3,072,171 to Drakeford et al. (“Drakeford”) and, optionally, further in view of at least one of U.S. Patent No. 3,240,250 to Frazier (“Frazier”), U.S. Patent No. 4,673,014 to Markow (“Markow”), and U.S. Patent No. 5,529,105 to Hayashi et al. (“Hayashi”); and rejected claims 28, 29, 39, 43, 44, 57, 58, 68, 72, and 73 under 35 U.S.C. § 103(a) as being unpatentable over FR ’231 in view of Herbelleau and/or Drakeford, and, optionally, further in view of at least one of Frazier, Markow, and Hayashi, and yet further in view of U.S. Patent No. 3,826,297 to Alderfer (“Alderfer”).

Section 103(a) Rejections—Independent Claim 27

Applicants submit that independent claim 27, as amended, is patentable under 35 U.S.C. § 103(a) over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleau, Markow, FR '231, and the other art of record.

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a) using multiple references, each of three requirements must be met. First, the references, when combined, must teach or suggest all the claim limitations. M.P.E.P. 2143.03 (8th ed., Rev. 2, May 2004). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. M.P.E.P. 2143.01 (8th ed., Rev. 2, May 2004). Third, there must be a reasonable expectation of success that the proposed combination would work for the intended purpose. M.P.E.P. 2143.02 (8th ed., Rev. 2, May 2004). Moreover, the second and third requirements “must both be found in the prior art, not in applicant’s disclosure.” M.P.E.P. 2143 (8th ed., Rev. 2, May 2004).

However, no proper combination of the cited art teaches or suggests all the recitations of independent claim 27, including at least “wherein forming each carcass ply comprises: preparing strip lengths, each strip length comprising longitudinal and parallel thread elements at least partly coated with at least one layer of raw elastomer material; and depositing the strip lengths onto a toroidal support in a substantially U-shaped conformation about a profile in transverse section of the toroidal support;” “wherein each strip length comprises: two side portions that substantially extend in planes orthogonal to a geometric axis of rotation of the toroidal support at mutually-spaced-apart positions in an axial direction; a crown portion that extends at a radially outer

position in a plane substantially parallel to the geometric axis of rotation of the toroidal support; and two mutually-axially-spaced-apart transition regions that are defined between the side portions and the crown portion, respectively;” “wherein the crown portions of the strip lengths are disposed consecutively in side-by-side relationship along a circumferential extension of the toroidal support,” and “wherein edges of circumferentially consecutive strip lengths abut uniformly along their entire crown portions extending between the transition regions.”

In particular, Applicants note that each carcass ply comprises the strip lengths and that each strip length comprises, inter alia:

a crown portion that extends at a radially outer position in a plane substantially parallel to the geometric axis of rotation of the toroidal support; and

two mutually-axially-spaced-apart transition regions that are defined between the side portions and the crown portion, respectively;

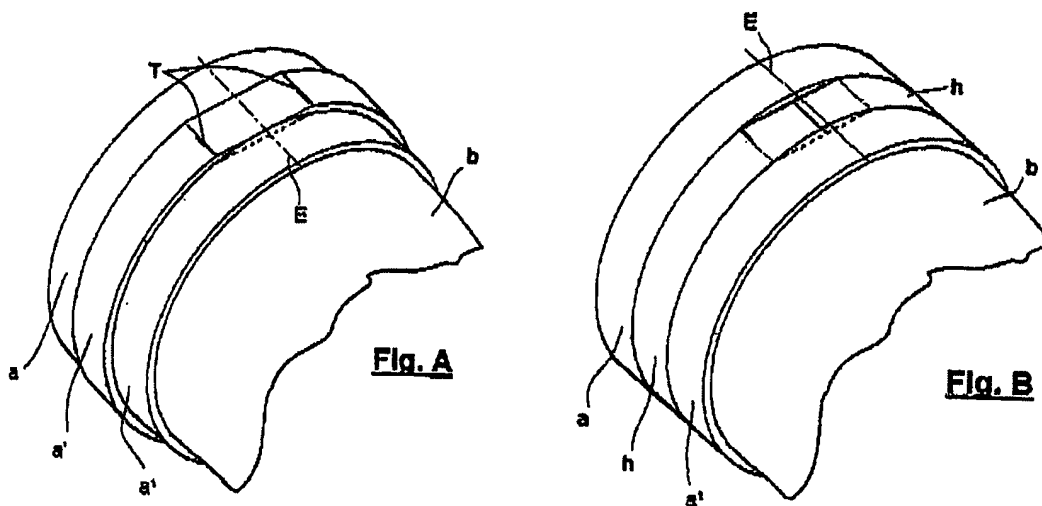
wherein edges of circumferentially consecutive strip lengths abut uniformly along their entire crown portions extending between the transition regions.

FR '231 fails to teach or suggest these features.

Applicants note that although the strips a, a', and a' are “in contact with each other at the mandrel periphery” (Translation of FR '231, p. 2/ll. 1-2), each element a' “carries two half strips or linings h . . . filling in the space . . . existing between strips a and a'” (Id., p. 2/ll. 7-10 and Fig. 3). Applicants submit that the half strips or linings h of FR '231 do not define “two side portions . . . a crown portion . . . and two mutually-axially-spaced-apart transition regions” as recited in claim 27. Instead, each half strip or lining h can only define a single side portion, a

single transition region, and a part of a crown portion. Thus, the half strips or linings h of FR '231 are not “strips lengths” as claimed in the present application.

Additionally, the presence of half strips or linings h physically prevents the edges of strips a, a', and a' from abutting uniformly along their entire crown portions, as shown in Figs. 3-5 of FR '231. Indeed, as is derivable from Figs. 1 and 2 of FR '231, each half strip or lining h exhibits a length that closely approximates half the length of strips a, a', and a'. Consequently, as shown in Fig. 3 of FR '231, for example, strips a, a', and a' appear to abut uniformly only in the immediate vicinity of the equatorial plane of the mandrel, not along their entire crown portions.



The figures immediately above better clarify this explanation. Fig. A schematically represents a portion of the radially inner carcass ply formed on a mandrel b according to

FR '231. Fig. B represents the same carcass ply portion of Fig. A, but intermediate strip a' has been omitted to better show the half strip or lining h.

As shown by Figs. A and B, strips a, a', and a' are "in contact with each other at the mandrel periphery," as recited in the translation of FR '231 at p. 2/11. 1-2. The intermediate strip a' also abuts against the other strips a and a' at respective crown portions. However, Applicants note that at least strips a and a' do not exhibit a crown portion as claimed in the present application. More particularly, even if each strips a and a' were deemed to comprise a respective "crown portion," such a crown portion exists only in the immediate vicinity of the equatorial plane of the mandrel (i.e., along line E in Figs. A and B). This means that at least strips a and a' do not exhibit "a crown portion that extends at a radially outer position in a plane substantially parallel to the geometric axis of rotation of the toroidal support." In addition, the strips a and a' do not exhibit "two mutually-axially-spaced-apart transition regions that are defined between the side portions and the crown portion, respectively." Consequently, although mutually-axially-spaced-apart transition regions T may be seen in intermediate strip a', the edges of circumferentially consecutive strips according to FR '231 do not "abut uniformly along their entire crown portions extending between the transition regions." Instead, the abutment is achieved according to a thickness that corresponds to a whole thickness of the strips in the immediate vicinity of equatorial plane E only, and progressively decreases moving away from equatorial plane E. This contrasts with the wording of claim 27, which requires that the "edges of circumferentially consecutive strip lengths abut uniformly along their entire crown portions extending between the transition regions."

Based on the discussion above, Applicants respectfully disagree with the Office Action's statement that "the filling linings 'h' are expressly described/illustrated (figs. 4-5) as being present in the sides and beads but not present in the rolling band." (Office Action, p. 2, ¶ 3). Applicants submit that a complete reading of FR '231, including the specification—as translated—and Figs. 4 and 5, does not support such a broad statement.

Indeed, in Fig. 4 of FR '231, Applicants note that rolling band j extends far out to the shoulder area of the tire, past the radially outer ends of half strips or linings h' and h'''. Similarly, in Fig. 5, the rolling band extends past the radially outer ends of half strips or linings h and h''.

Applicants further note that although the specification of FR '231—as translated—asserts that "In this way the arrangement shown in section (Figs 4 and 5) is obtained, beads i of the cover involving all plies a, as well as linings h, and consequently having a thickness which is twice that of the rolling band j," Figs. 4 and 5 do not show that the beads and sides have a thickness which is twice that of rolling band j along all of rolling band j. On the contrary, ignoring the thickness associated with tread band k, both Figs. 4 and 5 appear to show that the beads and sides have a thickness which is twice that of rolling band j only in the vicinity of the equatorial plane of the tire. And the thickness of the rolling band in Figs. 4 and 5 appears to substantially match that of the beads and sides at the edges of the rolling band in the shoulder areas of the tire, specifically because of the presence of half strips or linings h' and h''' (Fig. 4) and half strips or linings h and h'' (Fig. 5).

In any event, Applicants note that even if FR '231 were deemed to disclose a "substantially flat crown or rolling surface/band where the strips would be in contact with one

another but not overlapped” (Office Action, p. 3/11. 6-7), this document would be quite far from teaching or suggesting the claimed features. Indeed, FR ’231 teaches to obtain a flat crown by providing linings h extending under some of the strips in the shoulder portion of the tyre, whereas the claimed invention requires strips uniformly abutting “along their entire crown portions extending between the transition regions.”

Applicants further submit that no proper combination of Alderfer, Drakeford, Frazier, Hayashi, Herbelleauu, and/or Markow with FR ’231 overcomes these fundamental deficiencies of FR ’231 in relation to claim 27. This is particularly true in light of the old (circa 1908) and relatively unusual construction of the tire of FR ’231.

In any case, Hayashi, Markow, and the other art of record that might be read to teach a tyre with a substantially flat carcass crown do not provide the features that distinguish the present invention from FR ’231. For this reason, Applicants submit that one skilled in the art could not be expected to arrive at the present invention by modifying FR ’231 with teachings derivable from the art of record.

For at least this reason, independent claim 27 is patentable under 35 U.S.C. § 103(a) over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleauu, Markow, FR ’231, and the other art of record.

Section 103(a) Rejections—Dependent Claims 28-55

Applicants submit that dependent claims 28-55 are patentable under 35 U.S.C. § 103(a) over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleauu, Markow, FR ’231, and the other art of record. This is true at least due to the direct or indirect dependency of claims 28-55 from independent claim 27.

Section 103(a) Rejections—Independent Claim 56

Applicants submit that independent claim 56, as currently pending, is patentable under 35 U.S.C. § 103(a) over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleau, Markow, FR '231, and the other art of record.

As discussed above, in order to establish a prima facie case of obviousness under 35 U.S.C. § 103(a) using multiple references, the references, when combined, must teach or suggest all the claim limitations. For reasons similar to those discussed above, however, no proper combination of the cited art teaches or suggests all the recitations of independent claim 56, including at least “wherein forming each carcass ply comprises: preparing strip lengths, each strip length comprising longitudinal and parallel thread elements at least partly coated with at least one layer of raw elastomer material; and depositing the strip lengths onto a toroidal support in a substantially U-shaped conformation about a profile in transverse section of the toroidal support;” “wherein each strip length comprises: two side portions that substantially extend in planes orthogonal to a geometric axis of rotation of the toroidal support at mutually-spaced-apart positions in an axial direction; a crown portion that extends at a radially outer position in a plane substantially parallel to the geometric axis of rotation of the toroidal support; and two mutually-axially-spaced-apart transition regions that are defined between the side portions and the crown portion, respectively;” “wherein the crown portions of the strip lengths are disposed consecutively in side-by-side relationship along a circumferential extension of the toroidal support,” and “wherein edges of circumferentially consecutive strip lengths abut uniformly along their entire crown portions extending between the transition regions.”

For at least this reason, independent claim 56 is patentable under 35 U.S.C. § 103(a) over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleauu, Markow, FR '231, and the other art of record.

Section 103(a) Rejections—Dependent Claims 57-84

Applicants submit that dependent claims 57-84 are patentable under 35 U.S.C. § 103(a) over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleauu, Markow, FR '231, and the other art of record. This is true at least due to the direct or indirect dependency of claims 57-84 from independent claim 56.

Section 103(a) Rejections—Independent Claims 85-90

Applicants submit that independent claims 85-90, as amended, are patentable under 35 U.S.C. § 103(a) over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleauu, Markow, FR '231, and the other art of record.

As discussed above, in order to establish a prima facie case of obviousness under 35 U.S.C. § 103(a) using multiple references, the references, when combined, must teach or suggest all the claim limitations. However, for reasons similar to those discussed above, no proper combination of the cited art teaches or suggests all the recitations of independent claims 85-90, including at least “wherein forming each carcass ply comprises: preparing strip lengths, each strip length comprising longitudinal and parallel thread elements at least partly coated with at least one layer of raw elastomer material; and depositing the strip lengths onto a toroidal support in a substantially U-shaped conformation about a profile in transverse section of the toroidal support;” “wherein each strip length comprises: two side portions that substantially extend in planes orthogonal to a geometric axis of rotation of the toroidal support at mutually-

spaced-apart positions in an axial direction; a crown portion that extends at a radially outer position in a plane substantially parallel to the geometric axis of rotation of the toroidal support; and two mutually-axially-spaced-apart transition regions that are defined between the side portions and the crown portion, respectively;” “wherein the crown portions of the strip lengths are disposed consecutively in side-by-side relationship along a circumferential extension of the toroidal support,” and “wherein edges of circumferentially consecutive strip lengths abut uniformly along their entire crown portions extending between the transition regions.”

For at least this reason, independent claims 85-90 are patentable under 35 U.S.C. § 103(a) over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleau, Markow, FR '231, and the other art of record.

New Claim 91

Applicants submit that new independent claim 91 is patentable under 35 U.S.C. §§ 102 and 103 over the cited references, including Alderfer, Drakeford, Frazier, Hayashi, Herbelleau, Markow, FR '231, and the other art of record, at least because neither Alderfer, Drakeford, Frazier, Hayashi, Herbelleau, Markow, FR '231, nor the other art of record, either alone or in any proper combination, teaches or suggests all the recitations of claim 91 including, inter alia, “wherein forming each carcass ply comprises: preparing strip lengths, each strip length comprising longitudinal and parallel thread elements at least partly coated with at least one layer of raw elastomer material; depositing one of the strip lengths onto a toroidal support; and depositing further strip lengths onto the toroidal support;” “wherein each of the further strip lengths is deposited in a circumferential side-by-side relationship with a previously deposited strip length,” “wherein each of the strip lengths is deposited in a substantially U-shaped

conformation about a profile in transverse section of the toroidal support,” “wherein each strip length comprises: two side portions that substantially extend in planes orthogonal to a geometric axis of rotation of the toroidal support at mutually-spaced-apart positions in an axial direction; a crown portion that extends at a radially outer position in a plane substantially parallel to the geometric axis of rotation of the toroidal support; and two mutually-axially-spaced-apart transition regions that are defined between the side portions and the crown portion, respectively;” “wherein the crown portions of the strip lengths are disposed consecutively in side-by-side relationship along a circumferential extension of the toroidal support,” and “wherein edges of circumferentially consecutive strip lengths abut uniformly along their entire crown portions extending between the transition regions.”

For at least this reason, Applicants submit that independent claim 91 is patentable under 35 U.S.C. §§ 102 and 103 over Alderfer, Drakeford, Frazier, Hayashi, Herbelleau, Markow, FR '231, and the other art of record.

Claim Scope

In discussing the specification, claims, abstract, and drawings in this Amendment, it is to be understood that Applicants are in no way intending to limit the scope of the claims to any exemplary embodiments described in the specification or abstract and/or shown in the drawings. Rather, Applicants believe that Applicants are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

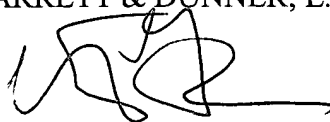
Summary

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and reexamination of this Application and the timely allowance of the pending claims.

If there is any fee due in connection with the filing of this Amendment, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.



Dated: March 18, 2005

By: _____
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